

## NEW COCCIDÆ FOUND ASSOCIATED WITH ANTS.

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[The species described below were all collected by Mr. King. The notes on the microscopical characters were prepared by Mr. King, but have been extended and rewritten from Mr. King's mounts by Mr. Cockerell, who is also responsible for the comparisons with allied species. The notes on the living insects, habitat, etc., are all by Mr. King.]

*Lecanopsis lineolata*, n. sp.

♀ (cleared and mounted).—Oval, length somewhat over 2 mm., dermis practically colourless, legs and mouth-parts tinged with sepia, anal plates a warm yellowish-brown, quite a different colour from the legs. The mouth-parts inclined rather to a madder-brown. Legs and antennæ small, hind legs not nearly reaching the anal plates, tip of femur of middle legs reaching extreme base of hind legs. Posterior cleft wide. Antennæ fairly stout, gradually decreasing in size distad, 8-jointed: 3 longest, not quite twice as long as broad; 2 and 4 next, and about equal; 5 and 1 of about equal length, but 1 much broader than long, 5 longer than broad; then the last three subequal, but 8 the longer. Formula 3 (24) (15) 8 (76): 8 with several small hairs. Anterior tibia and tarsus as long as antennal joints 2 to 6, the tarsus about half as long as tibia; femur very stout, not as long as tibia on its inner side, but a little longer on its outer; trochanter and coxa both very large. The legs are altogether noticeable for their stoutness, but the basal parts are especially enlarged. Claw large, moderately curved, digitules of claw stout, extending beyond its tip; tarsal digitules filiform, all but two broken off in the specimen. The claw-digitules are enlarged at ends to an obliquely truncate club, but the tarsal digitules with only an excessively minute club. There is the usual long bristle at the tip of the trochanter, and a short erect hair a little way up the femur on the inner side. Anal plates rather broad, the caudolateral side a little longer than the cephalolateral; a large bristle near the tip and another at the extreme base; these bristles are very large, and may possibly be dermal, beneath the plates; especially as there is a corresponding pair on the skin laterad of the plates, that opposite the hindmost bristle being considerably shorter than it. Hairs of anal ring broken, but apparently they were stout and not numerous. Skin without any distinct markings; marginal spines fairly large, pointed, simple, easily deciduous, a very little further apart than the length of one. Stigmatal spines in threes, one long, two much shorter but not very short.

Hab.—With *Cremastogaster lineolata*, two specimens in a nest; at Lawrence, Mass., July 15th, 1894.

This is not a strictly typical *Lecanopsis*, but belongs apparently in the subgenus or genus *Spermococcus* of Giard. By its 8-jointed antennæ it resembles *L. formicarum*, Newstead, but it differs at once from that by the smaller (though still large) first antennal joint, the longer second joint, the much longer third joint, the femur decidedly stouter, the tibia not beset with numerous bristles, and the claw-digitules stout. *Lecanopsis* is simply a segregate from *Lecanium*, modified for underground existence. Maskell's *Lecanopsis filicum* hardly belongs here; in some respects, but not in others, it seems to approach *Myxolecanium*; it also recalls in some of its characters such forms as *Lecanium Urichi*.

*Phenacoccus americana*, n. sp.

♀.—When alive fusco-testaceous, smooth, soft, sticky, and free from any wax or down; when put into alcohol its colour changes to a rufous-violaceous, and it becomes quite wrinkled, its general form is rounded, with a slice of nearly one-fourth cut off, making its under surface flat. Length (in alcohol)  $3\frac{1}{2}$  mm., width 3 mm.

♀ (cleared and mounted).—Oval, brown of a rather warm sepia tint, antennæ and legs very pale yellowish. The legs are slender, and although the insect is much larger, its legs are not so large as those of some of the ant's-nest species of *Rhipersia*; but at the same time they are well-formed and ordinary, not shortened or swollen as in the *Lecanopsis*. Trochanter with one long and at least two short bristles. Femur little longer than tibia, its inner margin straight, with four or five erect bristles; its outer margin very gently arched or bent, with a conspicuous erect bristle at the bend. Tibia slender, with eleven conspicuous bristles, tending to form three whorls. Tarsus rather over two-thirds length of tibia, with similar but finer bristles, no knobbed tarsal digitules. Claw large, little curved, with a minute denticle on inner side near the tip; digitules of claw extending beyond its tip, slender, with hardly noticeable knobs. Antennæ slender, club not conspicuously swollen, formula 9 (123) (45678), or it might be written as well 9132 (87) (456), but the additional differences indicated by the latter formula are almost too slight to be accurately measured by the eye: 9 is very nearly as long as 7+8; 1 is cylindrical, its base not noticeably wider than the apex. The joints have sparse whorls of hairs, 9 having two such whorls. Eyes prominent. Mouth-parts small, mentum (so-called) very obscurely or not





dimpled, broad and short, its apical half with three whorls of erect bristles. Skin with sparse small round gland-spots.

Hab.—Andover, Mass., Oct. 27th, 1896, under a stone in the nest of *Lasius americanus*, Emery. A small colony of five individuals captured, and only one herd as yet found; they were not feeding on any roots entering the nest of the ants, but were altogether on the surface of the nest, and some of the ants were attending them. It is to be presumed that they would eventually produce cottony matter.

Both by colour and habits this differs at once from *P. aceris*, Sign., which has been recorded from Massachusetts, and there is no species with which it is likely to be confounded.

*Ripersia Blanchardii*, n. sp.

♀.—Dark reddish-purple, segments prominent, much broader in front, pointed behind, subglobular or subelliptical, convex, antennæ short and thick. Length, 2 mm.; breadth,  $1\frac{1}{2}$  mm.

♀ (cleared and mounted).—Skin quite thickly beset with round gland-spots, and also minutely hairy, the minute but abundant pubescence being a striking characteristic of the species. So abundant are the hairs in the vicinity of the anal ring that it is impossible to be sure how many really belong to the latter, though there seem to be six, the usual number. The legs, antennæ and mouth-parts are tinged with ochreous, and are large for the size of the insect; particularly the mouth-parts, which have at least twice the diameter, and many times the bulk, of those of the larger species *Phenacoccus americana*. The mouth-parts are also much broader in proportion to their length than in *P. americana*, and the rostral filaments are quite stout. The antennæ are stout, 6-jointed, just about as long as in *P. americana*, but very much stouter and quite different in appearance. The formula is (36) 21 (45), but if anything, 3 is a little longer than 6; 3 about twice as long as broad; 4 and 5 broader at apex than at base, so that the sutures between 3 and 4, 4 and 5, and 5 and 6, are very deep, the last two approaching a right angle. The whorls of hairs are very sparse. The legs are also peculiar; fully a third longer than in *P. americana*, and very stout, with large coxæ and trochanters, they are tolerably thickly beset with small hairs. The tarsus is somewhat over two-thirds the length of the tibia, and tapers quite rapidly from a broad oblique base, it shows a slight tendency to be jointed a little before the

end. Claw large, moderately bent, on one leg minutely notched at the end. Digitules wanting; there is a small bristle in the place of the claw-digitule.

Hab.—Haverhill, Mass., Oct. 4th, 1896, in a nest of *Lasius claviger*, Rog., under a stone with a small herd of another species; only one found, not feeding. Named after Mr. Blanchard, who has interested himself in the Coleoptera associated with ants in the same region.

Of the Massachusetts species, this most resembles *R. lasii*, particularly in the antennæ, but it differs widely in its colour, hairiness and stout legs. Still less does it seem to resemble any of the foreign species.

Reviewing the above three species, it seems that the *Lecanopsis* is most modified for an underground life, the *Ripersia* somewhat, but the *Phenacoccus* hardly or not at all. It is probable that the last will be found in summer on some plant above ground.

#### ARGYNNIS IDALIA IN NEW BRUNSWICK.

On February 1st I happened to spend a few hours in St. John, N. B., and through the kindness of Mr. Herbert E. Goold, of Sussex, N. B., and Mr. A. Morissey, of St. John, I was enabled to visit the very interesting museum of the Natural History Society of New Brunswick. In looking over the cases of insects I noticed two fine specimens of *Argynnis idalia*, which Mr. Goold told me were taken by himself or his father at St. John. I could not remember at the time any record of *A. idalia* having been taken in New Brunswick, so asked Mr. Goold to enquire from his father if he remembered anything of the capture. He has since written to me: "In *re Argynnis idalia*—On my return home from St. John I asked my father about the specimens. He remembered the circumstances of their being caught distinctly, as he was perfectly familiar with the insect, having been one of the most active members of the entomological branch of the Natural History Society of Portland, Maine. In 1880 quite a number of specimens of *A. idalia* appeared in the vicinity of St. John, and the specimens you saw were taken at that time." It is to be deeply regretted that at the present time very few members of the strong local Natural History Society at St. John are studying entomology. The locality is one of extreme interest scientifically, and very much requires working up.

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[In the C. E. for March, 1896, Vol. XXVIII, p. 74, the capture of a specimen of *A. idalia* at Windsor, Ont., is recorded.—ED. C. E.]